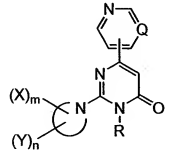
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A pyrimidone derivative represented by formula (I) or a salt thereof, ~~or a solvate thereof or a hydrate thereof~~:



(I)

wherein Q represents CH or nitrogen atom;

R represents a C_1-C_{12} alkyl group ~~which may be substituted~~;

the ring of:

represents piperazine ring or piperidine ring;

each X independently represents

$X^1 - X^2 -$

wherein X^1 represents

~~an oxo group;~~

~~a C_1-C_8 alkyl group which may be substituted;~~

~~a C_3-C_8 cycloalkyl group which may be substituted;~~

an optionally partially hydrogenated C_6-C_{10} aryl ring which may be substituted;

~~an indan ring which may be substituted;~~

an optionally substituted heterocyclic ring having 1 to 4 hetero atoms selected from ~~the group consisting of~~ oxygen atom, sulfur atom, and nitrogen atom, and having 5 to 10 ring-constituting atoms in total;

~~an aralkyloxy group;~~

a group represented by –N(Ra)(Rb)

wherein Ra and Rb are the same or different and each is

hydrogen,

a C_1-C_4 alkyl group ~~which may be substituted~~,

an aralkyl group which may be substituted, or

~~a C_3-C_8 cycloalkyl group which may be substituted,~~

an aryl group which may be substituted,

C_1-C_8 alkylcarbonyl group ~~which may be substituted,~~

~~C_3-C_8 cycloalkylcarbonyl group which may be substituted,~~

~~aralkycarbonyl group which may be substituted,~~

~~C_6-C_{10} arylcarbonyl group which may be substituted,~~

~~C_1-C_8 alkysulfonyl group which may be substituted,~~

~~C_3-C_8 cycloalkylsulfonyl group which may be substituted,~~

~~aralkysulfonyl group which may be substituted,~~

~~C_6-C_{10} arylsulfonyl group which may be substituted,~~

~~C_1-C_8 alkyloxycarbonyl group which may be substituted,~~

~~C_3-C_8 cycloalkyloxycarbonyl group which may be substituted,~~

~~aralkyoxycarbonyl group which may be substituted,~~

~~C_6-C_{10} aryloxycarbonyl group which may be substituted,~~

~~aminocarbonyl,~~

~~N-C_1-C_8 alkylaminocarbonyl group which may be substituted,~~

~~N,N'-C_1-C_8 dialkylaminocarbonyl group which may be substituted,~~

~~N-C_1-C_8 alkyl-N'-C_3-C_8 cycloalkylaminocarbonyl group which may be substituted,~~

~~N-C_1-C_8 alkyl-N'-aralkylaminocarbonyl group which may be substituted,~~

~~N-C_1-C_8 alkyl-N'-C_6-C_{10} arylaminocarbonyl group which may be substituted,~~

~~C_3-C_8 cycloalkylaminocarbonyl group which may be substituted,~~

~~N,N'-C_3-C_8 dicycloalkylaminocarbonyl group which may be substituted,~~

~~N-C_3-C_8 cycloalkyl-N'-aralkylaminocarbonyl group which may be substituted,~~

~~N-C_3-C_8 cycloalkyl-N'-C_6-C_{10} arylaminocarbonyl group which may be substituted,~~

~~aralkylaminocarbonyl group which may be substituted,~~

~~N,N'-diaralkylaminocarbonyl group which may be substituted,~~

~~N-aralkyl-N'-C_6-C_{10} arylaminocarbonyl group which may be substituted,~~

~~C_6-C_{10} arylaminocarbonyl group which may be substituted,~~

~~N,N'-C_6-C_{10} diarylaminocarbonyl group which may be substituted, or~~

~~an optionally substituted heterocyclic ring having 1 to 4 hetero atoms selected from the group consisting of oxygen atom, sulfur atom, and nitrogen atom, and having 5 to 10 ring-constituting atoms in total; or~~

~~Ra and Rb together with the adjacent nitrogen atom form a 4 to 7 membered heterocyclic ring which may further contain 1 to 4 groups selected from an oxygen atom, a sulfur atom, N-Rc~~

~~(wherein Rc represents~~

~~a hydrogen atom,~~

~~a C_1-C_4 alkyl group which may be substituted,~~

~~an aralkyl group which may be substituted,~~

~~C_3-C_8 cycloalkyl group which may be substituted or~~

~~an aryl group which may be substituted,~~

~~C_1-C_8 alkylcarbonyl group which may be substituted,~~

~~C_3-C_8 cycloalkylcarbonyl group which may be substituted,~~

~~aralkycarbonyl group which may be substituted,~~

~~C_6-C_{10} arylcarbonyl group which may be substituted,~~

~~C_1-C_8 alkysulfonyl group which may be substituted,~~

~~C_3-C_8 cycloalkylsulfonyl group which may be substituted,~~

~~aralkysulfonyl group which may be substituted,~~

~~C_6-C_{10} arylsulfonyl group which may be substituted,~~

~~C_1-C_8 alkyloxycarbonyl group which may be substituted,~~

~~C_3-C_8 cycloalkyloxycarbonyl group which may be substituted,~~

~~aralkyoxycarbonyl group which may be substituted,~~

~~C_6-C_{10} aryloxycarbonyl group which may be substituted,~~

~~aminocarbonyl,~~

~~N-C_1-C_8 alkylaminocarbonyl group which may be substituted,~~

~~N, N'-C_1-C_8 dialkylaminocarbonyl group which may be substituted,~~

~~N-C_1-C_8 alkyl-N'-C_3-C_8 cycloalkylaminocarbonyl group which may be substituted,~~

~~N-C_1-C_8 alkyl-N'-aralkylaminocarbonyl group which may be substituted,~~

~~N-C_1-C_8 alkyl-N'-C_6-C_{10} arylaminocarbonyl group which may be substituted,~~

~~C_3-C_8 cycloalkylaminocarbonyl group which may be substituted,~~

~~N,N'-C_3-C_8 dicycloalkylaminocyarbonyl group which may be substituted,~~

~~N-C_3-C_8 cycloalkyl-N'-aralkylaminocarbonyl group which may be substituted,~~

~~N-C_3-C_8 cycloalkyl-N'-C_6-C_{10} arylaminocarbonyl group which may be substituted,~~

~~aralkylaminocarbonyl group which may be substituted,~~

~~N,N'-diaralkylaminocarbonyl group which may be substituted,~~

~~N-aralkyl-N'-C_6-C_{10} arylaminocarbonyl group which may be substituted,~~

~~C_6-C_{10} arylaminocarbonyl group which may be substituted,~~

~~N,N'-C_6-C_{10} diarylaminocarbonyl group which may be substituted, or~~

~~an optionally substituted heterocyclic ring having 1 to 4 hetero atoms selected from the group consisting of oxygen atom, sulfur atom, and nitrogen atom, and having 5 to 10 ring-constituting atoms in total),~~

~~a carbonyl group, a sulfinyl group or a sulfonyl group in the ring, and said 4 to 7 membered heterocyclic ring may optionally be fused with an aryl group which may be substituted;~~

X^2 represents

a bond,

~~a carbonyl group,~~

~~a sulfinyl group,~~

~~a sulfonyl group,~~

~~an oxygen atom,~~

~~a sulfur atom,~~

a C_1-C_4 alkylene group ~~which may be substituted~~ or

N-Rd

(Rd represents

a hydrogen atom,

a C_1-C_4 alkyl group ~~which may be substituted,~~

~~an aralkyl group which may be substituted,~~

~~C_3-C_8 cycloalkyl group which may be substituted or an aryl group which may be substituted,~~

or

C_1-C_8 alkylcarbonyl group); ~~which may be substituted,~~

~~C_3-C_8 cycloalkylcarbonyl group which may be substituted,~~

~~aralkycarbonyl group which may be substituted,~~

~~C_6-C_{10} arylcarbonyl group which may be substituted,~~

~~C_1-C_8 alkysulfonyl group which may be substituted,~~

~~C_3-C_8 cycloalkylsulfonyl group which may be substituted,~~

~~aralkysulfonyl group which may be substituted,~~

~~C_6-C_{10} arylsulfonyl group which may be substituted,~~

~~C_1-C_8 alkyloxycarbonyl group which may be substituted,~~

~~C_3-C_8 cycloalkyloxycarbonyl group which may be substituted,~~

~~aralkyoxycarbonyl group which may be substituted,~~

~~C_6-C_{10} aryloxycarbonyl group which may be substituted,~~

~~aminocarbonyl,~~

~~N-C_1-C_8 alkylaminocarbonyl group which may be substituted,~~

~~N, N'-C_1-C_8 dialkylaminocarbonyl group which may be substituted,~~

~~N-C_1-C_8 alkyl-N'-C_3-C_8 cycloalkylaminocarbonyl group which may be substituted,~~

~~N-C_1-C_8-alkyl-N'-aralkylaminocarbonyl group which may be substituted,~~

~~N-C_1-C_8-alkyl-N'-C_6-C_{10}-arylaminocarbonyl group which may be substituted,~~

~~C_3-C_8-cycloalkylaminocarbonyl group which may be substituted,~~

~~N,N'-C_3-C_8-dicycloalkylaminoycarbonyl group which may be substituted,~~

~~N-C_3-C_8-cycloalkyl-N'-aralkylaminocarbonyl group which may be substituted,~~

~~N-C_3-C_8-cycloalkyl-N'-C_6-C_{10}-arylaminocarbonyl group which may be substituted,~~

~~aralkylaminocarbonyl group which may be substituted,~~

~~N,N'-diaralkylaminocarbonyl group which may be substituted,~~

~~N-aralkyl-N'-C_6-C_{10}-arylaminocarbonyl group which may be substituted,~~

~~C_6-C_{10}-arylaminocarbonyl group which may be substituted,~~

~~N,N'-C_6-C_{10}-diarylaminocarbonyl group which may be substituted,or~~

~~an optionally substituted heterocyclic ring having 1 to 4 hetero atoms selected from the group consisting of oxygen atom, sulfur atom, and nitrogen atom, and having 5 to 10 ring constituting atoms in total);~~

m represents an integer of 1 to 3;

each Y independently represents

~~a halogen atom,~~

a hydroxy group, or

~~a cyano group,~~

~~Y^1-Y^3-~~

~~wherein Y^1 represents~~

a C_1-C_8 alkyl group ~~which may be substituted;~~

~~a C_3-C_8 cycloalkyl group which may be substituted or~~

~~a C_6-C_{10} aryl ring which may be substituted;~~

~~Y^3 represents~~

~~a carbonyl group,~~

~~a sulfinyl group,~~

~~a sulfonyl group,~~

~~an oxygen atom,~~

~~a sulfur atom,~~

~~a C_1-C_4 alkylene group which may be substituted or~~

~~N-Re~~

~~(Re represents~~

~~a hydrogen atom,~~

~~a C_1-C_4 alkyl group which may be substituted,~~

~~an aralkyl group which may be substituted,~~

~~C_3-C_8 cycloalkyl group which may be substituted or an aryl group which may be substituted,~~

~~C_1-C_8 alkylcarbonyl group which may be substituted,~~

~~C_3-C_8 cycloalkylcarbonyl group which may be substituted,~~

~~aralkycarbonyl group which may be substituted,~~

~~C_6-C_{10} arylcarbonyl group which may be substituted,~~

~~C_1-C_8 alkysulfonyl group which may be substituted,~~

~~C_3-C_8 cycloalkylsulfonyl group which may be substituted,~~

~~aralkysulfonyl group which may be substituted,~~

~~C_6-C_{10} arylsulfonyl group which may be substituted,~~

~~C_1-C_8 alkyloxycarbonyl group which may be substituted,~~

~~C_3-C_8 cycloalkyloxycarbonyl group which may be substituted,~~

~~aralkyoxycarbonyl group which may be substituted,~~

~~C_6-C_{10} aryloxycarbonyl group which may be substituted,~~

~~aminocarbonyl,~~

~~N-C_1-C_8 alkylaminocarbonyl group which may be substituted,~~

~~N,N'-C_1-C_8 dialkylaminocarbonyl group which may be substituted,~~

~~N-C_1-C_8 alkyl-N'-C_3-C_8 cycloalkylaminocarbonyl group which may be substituted,~~

~~N-C_1-C_8 alkyl-N'-aralkylaminocarbonyl group which may be substituted,~~

~~N-C_1-C_8 alkyl-N'-C_6-C_{10} arylaminocarbonyl group which may be substituted,~~

~~C_3-C_8 cycloalkylaminocarbonyl group which may be substituted,~~

~~N,N'-C_3-C_8 dicycloalkylaminoycarbonyl group which may be substituted,~~

~~N-C_3-C_8 cycloalkyl-N'-aralkylaminocarbonyl group which may be substituted,~~

~~N-C_3-C_8 cycloalkyl-N'-C_6-C_{10} arylaminocarbonyl group which may be substituted,~~

~~aralkylaminocarbonyl group which may be substituted,~~

~~N,N'-diaralkylaminocarbonyl group which may be substituted,~~

~~N-aralkyl-N'-C_6-C_{10} arylaminocarbonyl group which may be substituted,~~

~~C_6-C_{10} arylaminocarbonyl group which may be substituted,~~

~~N,N'-C_6-C_{10} diarylaminocarbonyl group which may be substituted, or~~

~~an optionally substituted heterocyclic ring having 1 to 4 hetero atoms selected from the group consisting of oxygen atom, sulfur atom, and nitrogen atom, and having 5 to 10 ring-constituting atoms in total),~~

n represents an integer of 0 to 8;

~~when X and Y or two Y groups are attached on the same carbon atom, they may combine to each other to form a C_2-C_6 alkylene group;~~

~~and when m is 1, n is 0, and X is X^1-CO-,~~

~~(1) X does not bind to 3-position of unsubstituted 1-piperazinyl group or does not bind to 3-position of a 4-alkyl-1-piperazinyl group; or~~

~~(2) X does not bind to 3-position or 4-position of non-substituted 1-piperidinyl group.~~

when the ring represented by X or X^1 has one or more substituents, the ring may have one or more substituents selected from:

a C_1-C_5 alkyl group;

C_3-C_6 cycloalkyl group;

a C_3-C_6 cycloalkyl-C_1-C_4 alkyl group;

a C_1-C_4 hydroxyalkyl group;

a halogen atom;

a C_1-C_5 halogenated alkyl group;

cyano group;

nitro group;

formyl group;

a benzene ring which may be substituted;

a naphthalene ring which may be substituted;

an optionally substituted heterocyclic ring having 1 to 4 hetero atoms selected from oxygen atom, sulfur atom and nitrogen atom, and having 5 to 10 ring-constituting atoms in total;

an amino group;

dimethylamino group;

an N-C_3-C_6 cycloalkyl-N-C_1-C_4 alkylaminoalkyl group wherein said C_1-C_4 alkyl may be substituted by hydroxy group or C_1-C_4 alkoxy group;

a C_1-C_5 monoalkylaminomethyl group;

a C_2-C_{10} dialkylaminomethyl group;

pyrrolidinylmethyl group;

piperidinylmethyl group;

morpholinomethyl group;

piperazinylmethyl group;

pyrrolylmethyl group;

imidazolylmethyl group;

pyrazolylmethyl group;

triazolylmethyl group;

and a group of the formula -E-Rf wherein

E represents O, S, SO, SO_2, CO or N(R^4) and

Rf represents

a C_1-C_5 alkyl group,

a C_4-C_7 cycloalkyl group,

a C_4-C_7 cycloalkylalkl group,

a C_1-C_5 hydroxyalkyl group,

a benzene ring which may be substituted,

a naphthalene ring which may be substituted,

an optionally substituted heterocyclic ring having 1 to 4 hetero atoms selected from oxygen atom, sulfur atom and nitrogen atom, and having 5 to 10 ring-constituting atoms in total,

an N-C_3-C_6 cycloalkyl-N-C_1-C_4 alkylaminoalkyl group,

a C_1-C_5 monoalkylaminoalkyl group,

C_2-C_{10} dialkylaminoalkyl group,

pyrrolidinylmethyl group,

piperidinylmethyl group,

morpholinomethyl group,

piperazinylmethyl group,

pyrrolylmethyl group,

imidazolylmethyl group,

pyrazolylmethyl group or

triazolylmethyl group,

C_1-C_8 alkylcarbonyl group,

C_3-C_8 cycloalkylcarbonyl group which may be substituted,

aralkycarbonyl group which may be substituted,

C_6-C_{10} arylcarbonyl group which may be substituted,

C_1-C_8 alkysulfonyl group,

C_3-C_8 cycloalkylsulfonyl group which may be substituted,

aralkysulfonyl group which may be substituted,

C_6-C_{10} arylsulfonyl group which may be substituted,

C_1-C_8 alkyloxycarbonyl group,

C_3-C_8 cycloalkyloxycarbonyl group which may be substituted,

aralkyoxycarbonyl group which may be substituted,

C_6-C_{10} aryloxycarbonyl group which may be substituted,

aminocarbonyl,

N-C_1-C_8 alkylaminocarbonyl group,

N, N'-C_1-C_8 dialkylaminocarbonyl group,

N-C_1-C_8 alkyl-N'-C_3-C_8 cycloalkylaminocarbonyl group,

N-C_1-C_8 alkyl-N'-aralkylaminocarbonyl group,

N-C_1-C_8 alkyl-N'-C_6-C_{10} arylaminocarbonyl group,

C_3-C_8 cycloalkylaminocarbonyl group,

N,N'-C_3-C_8 dicycloalkylaminoycarbonyl group,

N-C_3-C_8 cycloalkyl-N'-aralkylaminocarbonyl group,

N-C_3-C_8 cycloalkyl-N'-C_6-C_{10} arylaminocarbonyl group,

aralkylaminocarbonyl group,

N,N'-diaralkylaminocarbonyl group,

N-aralkyl- N'-C_6-C_{10} arylaminocarbonyl group,

C_6-C_{10} arylaminocarbonyl group,

N,N'-C_6-C_{10} diarylaminocarbonyl group, and

R^4 represents

a hydrogen atom,

a C_1-C_4 alkyl group,

an aralkyl group,

C_3-C_8 cycloalkyl group or

an aryl group which may be substituted; and

when the ring represented by X, or X^1 has one or more substituents, the substituent may further have one or more substituents selected from:

a C_1-C_5 alkyl group;

C_3-C_6 cycloalkyl group;

a C_3-C_6 cycloalkyloxy group;

C_1-C_4 hydroxyalkyl group;

a C_1-C_5 alkoxy group;

a C_4-C_7 cycloalkylalkoxy group;

a C_1-C_5 alkylthio group;

a C_1-C_5 alkylsulfonyl group;

a halogen atom;

a C_1-C_5 halogenated alkyl group;

a C_1-C_5 halogenated alkoxy group;

hydroxyl group;

cyano group;

nitro group;

formyl group;

a C_2-C_6 alkylcarbonyl group;

amino group;

a C_1-C_5 monoalkylamino group;

a C_2-C_{10} dialkylamino group;

a cyclic amino group;

a C_2-C_{10} monoalkylaminomethyl group;

a C_3-C_{11} dialkylaminomethyl group;

a phenyl group;

an aralkyloxy group;

an aralkyloxycarbonyl group;

an C_2-C_4 alkanoyloxy-C_1-C_4 alkyl group;

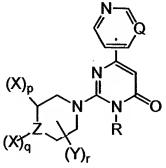
an alkanoylamino group;

N-C_1-C_4 alkyl-N-alkanoylamino;

N-C_1-C_4 alkyl-N-heterocyclic ring amino group; and

a diheterocyclic ring amino group.

2. (Currently Amended) The pyrimidone derivative or the salt thereof~~, or the solvate thereof or the hydrate thereof~~ according to claim 1 having the following formula(II)



(II)

wherein Q, R, X and Y are the same as those defined in claim 1;

p is 0 or 1; q is 0 or 1; r is an integer of 0 to 6; p+q is 1 or 2;

and Z represents N or CZ^1 wherein Z^1 represents hydrogen atom or Y.

3. (Currently Amended) The pyrimidone derivative or the salt thereof~~, or the solvate thereof or the hydrate thereof~~ according to claim 2, wherein R is a C_1-C_3 alkyl group ~~which may be substituted by a C_3-C_8 cycloalkyl group~~.

4. (Currently Amended) The pyrimidone derivative or the salt thereof~~, or the solvate thereof or the hydrate thereof~~ according to claim 3, wherein R is methyl group or ethyl group; Y is

in 3-, 4- or 5-position of the piperazine ring or the piperidine ring; p+q is 1; and r is an integer of 0 to 3.

5. (Currently Amended) The pyrimidone derivative or the salt thereof~~, or the solvate thereof or the hydrate thereof~~ according to claim 4, wherein X is a C_1-C_8 alkyl group which may be substituted or a C_6-C_{10} aryl ring which may be substituted; Y is a C_1-C_6 alkyl group ~~which may be substituted~~; p is 1; q is 0; r is an integer of 0 to 3; and Z is N or CH.

6. (Currently Amended) The pyrimidone derivative or the salt thereof~~, or the solvate thereof or the hydrate thereof~~ according to claim 5, wherein X is a benzene ring which may be substituted, a benzyl group which may be substituted; Y is a methyl group ~~which may be substituted~~; Z is N and r is 0 or 1.

7. (Currently Amended) The pyrimidone derivative or the salt thereof~~, or the solvate thereof or the hydrate thereof~~ according to claim 4, wherein X is a benzene ring which may be substituted, or a benzyl group which may be substituted~~, a benzoyl group which may be substituted, or a benzisothiazol ring which may be substituted~~; Y is a methyl group which may be substituted; Z is N and p is 0.

8. (Currently Amended) The pyrimidone derivative or the salt thereof~~, or the solvate thereof or the hydrate thereof~~ according to claim 4, wherein X is a C_1-C_8 alkyl group substituted by a benzene ring which may be substituted or a benzene ring which may be substituted; Y is a hydroxy group~~, a cyano group, or Y^1-CO- wherein Y^1 is a C_1-C_8 alkyl group~~; Z is CH or C-Y and r is 0 or 1.

9. (Currently Amended) The pyrimidone derivative or the salt thereof~~, or the solvate thereof or the hydrate thereof~~ according to claim 8, wherein X is a benzyl group which may be substituted or a benzene ring which may be substituted; Y is a hydroxy group~~, a cyano group, or an acetyl group~~; Z is CH or C-Y and r is 0 or 1.

10. (Original) A pyrimidone derivative which is selected from the group consisting of:

2-(3-Phenylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one; (*S*)-2-(3-(4-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

(*R*)-2-(3-(4-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Bromophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Bromophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Bromophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Methylphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Methylphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Methylphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Cyanophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Cyanophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Cyanophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Ethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(5-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Fluoro-3-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

(*S*)-2-(3-(4-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

(*R*)-2-(3-(4-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Chloro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Fluoro-2-methylphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Fluoro-6-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(5-Bromo-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Bromo-4-fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Chloro-6-fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,4-Difluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,6-Difluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,6-Dichlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,4-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3,4-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,5-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,6-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,4-Difluoro-6-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;(1034)

2-(3-(5-Cyano-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-

pyrimidin-4-one;

2-(3-(4-Cyano-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(1-Naphthyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Naphthyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,3-Dihydrobenzofuran-7-yl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(Benzofuran-2-yl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

(*S*)-2-(3-(Benzofuran-2-yl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(Pyrrolidin-1-yl-methyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(Pyrrolidin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-methoxy-4-(pyrrolidin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-methoxy-5-(pyrrolidin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(Phenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(4-Fluorophenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(4-Methoxyphenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(2-Methoxyphenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(Morpholin-4-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(4-Methylpiperazin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(4-Phenylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(4-Benzylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(4-Benzoylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(4-(1,2-Benzisothiazol-3-yl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(4-Methyl-3-phenylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Fluoro-2-methoxyphenyl)-4-methylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

(*S*)-2-(3-(4-Fluoro-2-methoxyphenyl)-4-methylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

(*R*)-2-(3-(4-Fluoro-2-methoxyphenyl)-4-methylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(4-Acetyl-3-(4-fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(4-Benzyl-3-(4-fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(4-Benzyl-3-(ethoxycarbonyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-

pyrimidin-4-one;

2-(4-methyl-3-(1-naphthyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(5,5-Dimethyl-3-(2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-Phenylpiperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Fluorophenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Fluorophenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Fluorophenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Chlorophenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Bromophenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Methoxyphenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Methoxyphenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Methoxyphenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-((Pyrrolidin-1-yl)methyl)phenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

(*S*)-2-(3-(4-(Pyrrolidin-1-yl-methyl)phenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

(*R*)-2-(3-(4-(Pyrrolidin-1-yl-methyl)phenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-Hydroxy-3-phenylpiperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-Phenylpiperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Bromophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Bromophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Bromophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Cyanophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Cyanophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Cyanophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Ethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(6-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-

pyrimidin-4-one;

2-(3-(5-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

(*S*)-2-(3-(4-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

(*R*)-2-(3-(4-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Chloro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(5-Bromo-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2,6-Dichlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,4-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3,4-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2,5-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2,6-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2,4-Difluoro-6-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(1-Naphthyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Naphthyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2,3-Dihydrobenzofuran-7-yl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(Benzofuran-2-yl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(Pyrrolidin-1-yl-methyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(Pyrrolidin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2-methoxy-4-(pyrrolidin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2-methoxy-5-(pyrrolidin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(Phenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(4-Fluorophenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(4-Methoxyphenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(2-Methoxyphenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-

pyrimidin-4-one;

2-(3-(4-(Morpholin-4-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(4-Methylpiperazin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Fluoro-2-methoxyphenyl)-4-methylpiperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

(*S*)-2-(3-(4-Fluoro-2-methoxyphenyl)-4-methylpiperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

(*R*)-2-(3-(4-Fluoro-2-methoxyphenyl)-4-methylpiperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(4-Acetyl-3-(4-fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(4-Benzyl-3-(4-fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(4-(4-Fluorophenyl)piperidin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(4-Cyano-4-phenylpiperidin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(4-(6-Fluorobenofuran-3-yl)piperidin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(Benzoisoxazol-3-yl)piperidin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

(*S*)-2-(3-(Benzoisoxazol-3-yl)piperidin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

(*R*)-2-(3-(Benzoisoxazol-3-yl)piperidin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(6-Fluorobenzoisoxazol-3-yl)piperidin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(4-(6-Fluorobenzoisoxazol-3-yl)piperidin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(4-(5-Methylbenzofuran-3-yl)piperidin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one; and

2-(4-(6-Fluorobenzothiophene-3-yl)piperidin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one

or a salt thereof~~, or a solvate thereof or a hydrate thereof~~.

11. (Currently Amended) A medicament composition comprising as an active ingredient ~~a substance selected from the group consisting of the~~ at least one pyrimidone derivative represented by formula (I) ~~and~~ or a salt thereof~~, and a solvate thereof and a hydrate thereof~~ according to claim 1.

12. (Currently Amended) A method of inhibiting tau protein kinase 1 ~~inhibitor selected from the group consisting of the~~ activity comprising administering to a patient a tau protein kinase 1 inhibiting effective amount of at least one pyrimidone derivative represented by formula (I) ~~and~~ or a salt thereof~~, and a solvate thereof and a hydrate thereof~~ according to claim 1.

13. (Currently Amended) ~~The medicament according to claim 11 which is used~~ A method for preventive and/or therapeutic treatment of a disease caused by tau protein kinase 1 hyperactivity comprising administering to a patient an effective amount of the composition according to claim 11 to inhibit activity of tau protein kinase 1.

14. (Currently Amended) ~~The medicament according to claim 11 which is used~~ A method for preventive and/or therapeutic treatment of a neurodegenerative disease comprising administering to a patient a preventively and/or therapeutically effective amount of the composition according to claim 11.

15. (Currently Amended) The ~~medicament~~ method according to claim 14, wherein the neurodegenerative disease is selected from ~~the group consisting of~~ Alzheimer disease, ischemic cerebrovascular accidents, Down syndrome, cerebral bleeding due to cerebral amyloid angiopathy, progressive supranuclear palsy, subacute sclerosing panencephalitic parkinsonism, postencephalitic parkinsonism, pugilistic encephalitis, Guam parkinsonism-dementia complex, Lewy body disease, Pick's disease, corticobasal degeneration, frontotemporal dementia, vascular dementia, traumatic injuries, brain and spinal cord trauma, peripheral neuropathies, retinopathies, and glaucoma.

16. (Currently Amended) ~~The medicament according to claim 11, wherein the~~ A method for preventive and/or therapeutic treatment of a disease ~~is~~ selected from ~~the group consisting of~~ non-insulin dependent diabetes, obesity, manic depressive illness, schizophrenia, alopecia, breast cancer, non-small cell lung carcinoma, thyroid cancer, T or B-cell leukemia, and a virus-induced tumor comprising administering to a patient a preventively and/or therapeutically effective amount of the composition according to claim 11.